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ON

KITE WITH MOVABLE FIGURE

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KITE WITH MOVABLE FIGURE

BACKGROUND

The popularity of kites has boomed in recent decades, and novelty kites are particularly in demand since many consumers want kites that are unique, that stand out from the rest of the kites, and that constitute a personalized expression that consumers want to make.

Very few flying toys have included a rigid toy human figure or other weighted mass suspended from the toy, or a parachute component thereof. Even fewer are able to make it appear as though the flying toy is acting similar to what a real device would act like when in use.

SUMMARY

A flying toy, such as a kite, with a ballast that may be configured to move relative to the toy during flight, is provided. The ballast could be in the form of a human, an animal, a fanciful creature, or even an inanimate object. The size and weight of the ballast may be comparable to that of the kite, such that the ballast is weighted sufficiently to affect the flight characteristics of the kite, whereby movement of the ballast during flight and/or wind effects on the ballast itself causes a somewhat noticeable change in the kite's flight characteristics.

In one embodiment, the ballast has generally flexible portions. According to another embodiment, the kite is in the form of a water or air vehicle, such as a ship,

boat, or plane, and includes a sail. In another embodiment, the ballast is removably, selectively, positionally coupled to the kite at one or more attachment points, and in a number of different orientations, for both aesthetics and functionality, as desired by the user.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side perspective view of a flying toy in the form of a sailboat kite, including a ballast in accordance with one exemplary embodiment.

FIG. 2 is a front perspective view of the kite of FIG. 1, illustrating the ballast shifted to one side of the sailboat kite.

FIG. 3 is a view similar to FIG. 2, illustrating the ballast shifted to the opposite side of the sailboat as shown in FIG. 2.

FIG. 4 is a front view of a ballast in a human-like form in accordance with an exemplary embodiment.

FIG. 5 is a side perspective view of a flying toy in an aircraft-like form and including a human-like ballast in accordance with another exemplary embodiment.

FIG. 6 is a side perspective view of a flying toy in an air or water ship-like form including a human-like and animal-like ballast in accordance with another exemplary embodiment.

FIG. 7 is a side perspective view of a flying toy in the form of a boat including a human-like ballast and a cage in accordance with another exemplary embodiment.

FIG. 8 is a top view of a hull including coupling structures in accordance with an exemplary embodiment.

DETAILED DESCRIPTION

The detailed description set forth below in connection with the appended drawings is intended as a description of exemplary embodiments and is not intended to represent the only forms in which the embodiments may be constructed and/or utilized. The description also sets forth the functions and the sequence of steps for constructing and operating the invention in connection with the illustrated embodiments. However, it is to be understood that the same or equivalent functions and sequences may be accomplished by different embodiments that are also intended to be encompassed within the spirit and scope of the invention.

Figure 1 shows a flying toy system according to one exemplary embodiment, generally at **10**. Flying toy system **10** typically includes a ballast **12** that is typically coupled to a kite **30**. Kite **30** typically includes a hull portion **40** and lift member **50**. Lift member **50** is typically configured to provide lift for the system when in flight. Hull portion **40** of kite **30** may optionally include masts **42** and sails **44**, as well as coupling structures **46**. It will be appreciated that although kite **30** is shown as a boat or other aquatic vehicle, many other designs may be utilized, including a whimsical airship, among others, as desired.

Ballast **12** is removably, selectively, positionally coupled to kite **30** to alter the appearance, and the flight characteristics of the entire system, when in flight. Ballast **12** is typically coupled to kite **30** above hull portion **40**, however, other configurations may be utilized, as desired. Ballast **12** may also move continually or intermittently when in flight, thereby changing the flight characteristics of the system **10**. The flight

characteristics include, but are not limited to, the center of gravity, the altitude and direction the kite is flying, and the airspeed of the kite.

This configuration may make the system act as if the system is riding on water, bouncing over waves, and the like. Ballast **12** also includes mating structures that allow it to couple to coupling structure **46** in many different positions throughout the system. With this configuration, ballast **12** may be coupling to the kite **30** in many different positions and configurations to alter the appearance and the flight characteristics of the system when in flight, as desired. The mating structures **26** may be located at many positions on the surfaces of ballast **12**. For example, Figure 4 illustrates mating structures **26** located on the hands and feet of a ballast **12** in the form of a human windsurfer. The present invention also contemplates many other forms of ballast **12** and many other locations for the mating structures **26**, such as in the seat area of a human or animal figure for the effect of emulating sitting, or the back area for emulating the effect of soaring by the figure.

Kite **30** is typically made from nylon, fabric, and plastic and rubber-like compounds, but may be made from other materials as desired.

As an illustrative, but non-limiting example, the kite **30**, with lift members **50**, weighs approximately 4.0-7.0 ounces, and has a hull portion **40**, which is approximately 30-45 inches long, 8-12 inches wide, and 2-4 inches deep. Additionally, the hull forks at approximately 28 inches from its front end. The sails **44** are typically between 10-14 inches in length, and 18-22 inches in height. Lift members **50** may be optionally attached or detached from the top of masts **42**, and may be rectangular or

parallelogram shaped, are typically 13-20 inches by 10-16 inches in length and width respectively. The ballast **12** may include slightly bent knees and is approximately 12-20 inches tall and has average head and body diameters of approximately 1-4 inches, and weighs about 0.4-2.0 ounces.

Additionally, the system **10** typically has string segments **34** which are approximately 10-30 inches in length, connected to the front and rear, or other portion of hull portion **40**, whereby the string segments are joined at a common point, which may include a connecting structure **36** as shown in the figure, for connection to a third long string (not shown) held by the user. Connecting structure **36** is shown as a ring-type connector, however, it will be appreciated that other connecting structures may be utilized, as desired.

Besides being in the form of a human, the ballast may also be in the form of an animal, fanciful or whimsical creature, or inanimate object. Furthermore, the kite itself may be in the form of various vehicles and other objects, including fanciful vehicles and objects, which may incorporate a figure including a ship, airplane, car, surfboard, snowboard, skateboard, house, etc. Additionally, more than one ballast in accordance with the exemplary embodiments may be attached to a single kite.

Figure 2 shows the flying toy system **10** from Figure 1 from a front perspective view. System **10** again includes a kite portion **30** and a ballast **12** coupled to it, as well as lift members **50** to provide lift for the system. In this figure, ballast **12** has moved to one side of the center of gravity of the entire system, simulating a person in a sailboat or on a sail board, and the like.

Lift members **50** are typically a rectangular shape and coupled to the system above hull portion **40**, however, it will be appreciated that other shapes and configurations may be utilized, as desired.

During flight, ballast **12**, which is illustrated as attached approximately at a central location on the sailboat kite **30**, may pivot from side to side depending on the orientation of the sailboat kite **30** and wind affects on the ballast **12**, thus resembling the actual human motion when sailing or sailboarding, or the like.

Figure 3 shows the ballast moved to the opposite side of the center of gravity of the entire system of that shown in Figure 2. System **10** again includes a kite **30** and a ballast **12** coupled to it. The system further includes lift members **50** that provide lift for the system. Ballast **12** may continually or intermittently move during flight such that it looks as if a person is sailing, or sail boarding, or the like.

Figure 4 shows a ballast **12** according to one exemplary embodiment. Ballast **12** typically includes a housing **14** which may be divided into an airfoil portion **16** and mesh portion **18**. Airfoil portion **16** may be configured to catch air, to deflect air, and to change the characteristics of the ballast **12**, and consequently the flight characteristics of the overall system when in flight. Mesh portion **18** may allow air to pass through to inflate ballast **12** and to allow airfoil portion **16** to deflect air. In Figure 4, ballast **12** is shown resembling a human figure, it will be appreciated that other figures may be utilized, including animals, caricatures, whimsical figures, and other inanimate objects, as desired. In this figure mesh portions **18** are shown as the eyes and near the knees of the human-like figure, as well as a sash running across the chest of the human figure.

It will be appreciated that other configurations may be utilized to change the characteristics of ballast **12**.

Ballast **12** also includes mating structures **26**, located at various locations on ballast **12**. Coupling structure **26** typically is configured to couple to coupling structure **46** of kite **30**, such that ballast **12** is coupled to kite **30**. Mating structures **26** and coupling structure **46** are typically a hook and loop configuration, but other coupling structures may be utilized as desired. It will be appreciated that, although certain locations on ballast **12** for mating structure **26** are shown in Figure 4, numerous locations for mating structure **26** may be utilized, including most or all of ballast **12**, as desired. For example, the hands of the figure may be coupled at low points, such that the figure appears to be bending. Additionally, the figure may be formed with slightly bending knees to more closely resemble the form of a human operating a sailboat, sailboard, or the like.

Ballast **12** is typically made of kite material such as nylon, plastic, or rubber-like materials, that are flexible, but may also be rigid, or partially rigid, or combinations thereof. With this configuration, ballast **12** may be connected at certain points of ballast **12** to kite **30** such that the remainder of ballast **12** will move continually during flight of the system with respect to kite **30**. Furthermore with this configuration, different points of ballast **12** may be connected to numerous different points of kite **30**, as desired.

Ballast **12** also typically includes fill material **22** to add weight to the system as well as to keep the form of ballast **12** when not inflated. Fill material is typically foam,

or other lightweight fill material. It will be appreciated that other materials may be utilized such as cotton, feathers, or synthetic filling, typically used for stuffing plush animals, pillows, and the like, which allow air to circulate through the body of ballast **12**, as desired.

The size and weight of the ballast may be comparable to that of the kite, such that the ballast is weighted sufficiently to affect the flight characteristics of the kite, whereby movement of the ballast during flight and/or wind effects on the ballast itself cause significant change in the kite's flight characteristics.

Figure 5 is a perspective view of a flying toy system **60** according to another exemplary embodiment. System **60** typically includes a kite **66** and a ballast **70**. In this embodiment, the kite is in the shape of an airplane, and the ballast is made to look somewhat like a pilot of an aircraft. In this embodiment, system **60** includes a propeller **76** which may be for ornamental or non-ornamental purposes. Kite **66** includes masts **78**, as well as lift members **80**. Lift members **80** are configured to deflect air and provide lift for the entire system when in flight.

Figure 6 shows a system according to an exemplary embodiment, generally at **84**. System **84** again includes ballast **86**, as well as a second ballast **88** that are configured to couple to a kite **92**. In this embodiment, kite **92** may take the form of a whimsical flying ship, such as Captain Nemo-like or other animated movie-like vehicles. System **84** again includes lift members **90** above the kite, as well as on the side of the kite. System **84** may alternatively include a propeller **94** that is used for ornamental or non-ornamental purposes. Ballast **86** and **88** are typically coupled to the

kite using a coupling structure **96** similar to the previously described coupling structures, such as a hook and loop type fastening structure.

In this embodiment, ballast **86** is in the form of a human-like caricature, and ballast **88** is in the form of a dog or other animal type figure. It will be appreciated, however, that although ballasts are shown as human figures and animal figures, many other whimsical cartoon-like and caricactures can be used, as desired. Furthermore, any number of ballasts may be utilized, and ballasts may be used with more than one system, as desired.

Figure 7 shows another system **100** according to yet another exemplary embodiment. System **100** typically includes ballast **102** coupled to a kite **104**. In this embodiment, ballast **102** is again in a human-like figure, but others may be utilized as desired. System **100** also typically includes lift members **106** that are configured to deflect air when in flight to provide lift for the system. System **100** also typically includes coupling structure **108** similar to other coupling structures described herein, but other types of coupling configurations may be used. System **100** may also include a cage **110** that may be configured to limit the movement and travel of ballast **102**, when the system is in flight or non-flight. This may add stability to the system and provide for better flight characteristics. System **100** may also include propellers **112** that may alter the flight characteristics of the system when in flight, or may be utilized for ornamental reasons, and may rotate when the system is in flight.

Figure 8 is a top view of a hull portion **54** according to another exemplary embodiment of the present invention, showing many different locations for coupling

structure **56**. Coupling structure **56** may be located at specific points, or entire portions of the system. Furthermore, coupling structure **56** may be made from either a hook or loop configuration, or other coupling configuration, such that a ballast may be attached in an infinite number of positions within the system. Figure 8 shows the coupling structures **56** mounted on braces, masts, and other portions of the system as well as on hull portion **54**. The coupling structure **56** may include holes, through which rods of the kite may be inserted, such that coupling structure **56** moves with the figure.

While the examples described herein illustrate a ballast positioned atop the surface of the kite, it should be understood that embodiments wherein a ballast is positioned below the kite surface is also contemplated by the present invention. Such embodiments may be advantageous in that the figure will be more readily seen by viewers on the ground. Additionally, a flexible figure in accordance with the exemplary embodiments may be attached to other flying toys such as gliders, and the like, as desired.

In closing, it is to be understood that the exemplary embodiments described herein are illustrative of the principles of the present invention. Other modifications that may be employed are within the scope of the invention. Thus, by way of example, but not of limitation, alternative configurations may be utilized in accordance with the teachings herein. Accordingly, the drawings and description are illustrative and not meant to be a limitation thereof.